

REMARKS

In the Office Action, claim 20 is rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

In the Office Action, claims 1-3, 8, 9, 16, 18, 19, and 21 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent Publication No. 2002/0032469 to Marcovecchio.

In the Office Action, claims 4 and 14 are rejected under 35 U.S.C. §103(a) as being unpatentable over Marcovecchio in view of U.S. Patent Publication No. 2001/0037069 to Carlson et al.

In the Office Action, claim 5 is rejected under 35 U.S.C. §103(a) as being unpatentable over Marcovecchio in view of Carlson et al. as applied to claim 4 above, and further in view of U.S. Patent No. 4,340,065 to Gessman.

In the Office Action, claim 6 is rejected under 35 U.S.C. §103(a) as being unpatentable over Marcovecchio in view of Carlson et al. as applied to claim 4 above, and further in view of U.S. Patent No. 4,551,018 to Mannava et al.

In the Office Action, claim 7 is rejected under 35 U.S.C. §103(a) as being unpatentable over Marcovecchio in view of U.S. Patent No. 5,954,661 to Greenspon et al.

In the Office Action, claims 10 and 17 are rejected under 35 U.S.C. §103(a) as being unpatentable over Marcovecchio in view of Carlson et al. as applied to claim 4 above, and further in view of U.S. Patent No. 5,300,093 to Koestner et al.

In the Office Action, claim 11 is rejected under 35 U.S.C. §103(a) as being unpatentable over Marcovecchio in view of Carlson et al. as applied to claim 4 above, and further in view of WO 99/36769 to Leybovich.

In the Office Action, claim 12 is rejected under 35 U.S.C. §103(a) as being unpatentable over Marcovecchio in view of U.S. Patent No. 5,178,154 to Ackmann et al.

In the Office Action, claim 15 is rejected under 35 U.S.C. §103(a) as being unpatentable over Marcovecchio in view of Carlson et al. as applied to claim 4 above, and further in view of U.S. Patent No. 4,974,598 to John.

In the Office Action, claim 20 is rejected under 35 U.S.C. §103(a) as being unpatentable over Marcovecchio in view of Koestner et al.

In response thereto, claims 1 and 2 have been cancelled and claims 3, 4, 7-9, 12, 13, 16, 18, 20, and 21 have been amended. Accordingly, claims 3-21 are now pending.

Preliminary Matter

In response to the rejection of the claim 20 under 35 U.S.C. §112, second paragraph, in line 2, "the" has been replaced with --a--. Accordingly, it is respectfully requested that the rejection of claim 20 be withdrawn.

Independent Claim 7

Claim 7 has been rewritten in independent form and includes all of the limitations of base claim 1 and dependent claim 2. Claim 7 recites a method for analyzing an intracardiac electrocardiogram in an implantable cardiac device. The method comprises acquiring a plurality of intracardiac electrocardiogram signals, ensemble averaging the plurality of intracardiac electrocardiogram signals to produce an ensemble average, repeating the acquiring and ensemble averaging one or more times to produce a plurality of ensemble averages, and processing the plurality of ensemble averages to generate a mode of cardiac activity. The processing comprises detecting an event within each ensemble average using of a time and a level, and the event is an evoked response.

It is apparently conceded that the Marcovecchio reference does not disclose or suggest acquiring signals indicative of an evoked response. For this reason, it appears the Examiner has introduced the Greenspon et al. reference. It is respectfully submitted that any rejection of claim 7 based on a combination of these references,

however, would be improper. "Before the PTO may combine the disclosures of two or more prior art references in order to establish prima facie obviousness, there must be some suggestion for doing so." In re Jones, 21 USPQ2d 1941 (Fed. Cir. 1992). In this connection, the Office Action fails to point to anything in the references that would suggest the proposed modifications. To the contrary, any such rejection would impermissibly use "hindsight reconstruction" to pick and chose among the isolated disclosures in the prior art to deprecate the claimed invention." In re Fritch, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992). As there is no suggestion in the reference for the proposed modifications, any rejection of the claim 7 would fail to present a prima facie case of obviousness.

Furthermore, the proposed modifications would render the Marcovecchio device incapable of performing its intended function in any event. That is, such a modification would render the Marcovecchio device incapable of discriminating supraventricular tachycardia from ventricular tachycardia events. In one embodiment of the Marcovecchio device, during a tachycardia event, an input circuitry receives a QRS-wave signal from a tachycardia complex. A signal morphology analyzing circuit locates the plurality of feature points on the QRS-complex based on morphological features of the QRS-complex. A filter output response circuit then performs a numerical convolution of the NSR (normal sinus rhythm) templates with the plurality of feature points on the QRS-complex to give a tachycardia complex output. The filter output response circuit then sums a numerical different between the values of the tachycardia complex output and the median NSR filter output template. The summed difference is then received by the microprocessor where the calculated value is compared to the predetermined sum of residual threshold values. During a tachycardia episode, as the system senses each cardiac complex, the ICD classifies each sensed cardiac complex as either being a ventricular tachycardia complex or a supraventricular complex. When the number of ventricular tachycardia complexes exceeds a predetermined threshold value, an ICD declares a ventricular tachycardia event. As such, ventricular tachycardia is declared by comparing each individual cardiac event with the NSR

template, and the Marcovvechio device will not function by ensemble averaging evoked responses.

The remaining references (Carlson et al., Gessman, Mannava et al., Koestner et al., Leybovich, Ackmann et al., and John) do not disclose or suggest processing a plurality of ensemble averages to generate a model of cardiac activity, wherein the processing comprises detecting and event within each ensemble average using one of a time and a level, and wherein the event is an evoked response.

Accordingly, it is respectfully submitted that claim 7 is in condition for allowance.

Dependent Claims 3-6 and 8-17

Claims 3-6 and 8-17 depend from claim 17 and are similarly patentable. Accordingly, it is respectfully submitted that these claims are in condition for allowance.

Independent Claim 18

For at least the same reasons discussed above with regards to claim 7, it is respectfully submitted that claim 18 is in condition for allowance.

Dependent Claims 19 and 20

Claims 19 and 20 depend from claim 18 and are similarly patentable. Accordingly, it is respectfully submitted that these claims are in condition for allowance.

Independent Claim 21

For at least the same reasons discussed above with regards to claim 7, it is respectfully submitted that claim 21 is in condition for allowance.

CONCLUSION

In light of the above claim amendments and remarks, it is respectfully submitted that the application is in condition for allowance, and an early notice of allowance is requested.

Respectfully submitted,

7/6/06

Date



Ronald S. Tamura, Reg. No. 43,179
Patent Attorney for Applicant

CUSTOMER NUMBER: 36802